

# Claims

[c1] 1. Method for up-shifting of an automatic or semi-automatic gearbox which is connected to an engine equipped with an additional engine brake, which method comprises determining an expected value of the speed derivative ( $ESG_e$ ) of said engine during said gearshift, wherein said method comprises:

measuring the speed derivative ( $ESG_m$ ) of the engine during said gearshifting (21),

calculating a difference value which corresponds to the difference between the measured value of the speed derivative ( $ESG_m$ ) and the expected value of the speed derivative ( $ESG_e$ ), and updating the expected value of the speed derivative ( $ESG_e$ ) to a new value which closely corresponds to said measured value of the speed derivative ( $ESG_m$ ) if said difference value exceeds a predetermined threshold value (x).

[c2] 2. Method according to claim 1, wherein said updating is carried out by replacing said expected value of the speed derivative ( $ESG_e$ ) by said measured value of the speed derivative ( $ESG_m$ ) directly after said calculation.

[c3] 3. Method according to claim 1, wherein said updating is

carried out by means of a successive change of said expected value of the speed derivative (ESG<sub>e</sub>) in the direction of a value which corresponds to said measured value of the speed derivative (ESG<sub>m</sub>).

- [c4] 4. Method according to claim 3, wherein said successive change takes place stepwise.
- [c5] 5. Method according to claim 3, wherein said successive change takes place continuously.
- [c6] 6. Method according to claim 3, wherein said successive change takes place by replacing said expected value of the speed derivative (ESG<sub>e</sub>) with a value that corresponds to an average value of a previously determined number of values of the measured speed derivative (ESG<sub>m</sub>).
- [c7] 7. Method according to claim 1, wherein it comprises compression braking using said additional engine brake.
- [c8] 8. Device for up-shifting of an automatic or semi-automatic gearbox which is connected to an engine equipped with an additional engine brake, comprising a control unit for initiating gearshifting and for storing an expected value of the speed derivative (ESG<sub>e</sub>) of said engine during said gearshifting, wherein said device comprises means for measuring the speed derivative (ESG<sub>m</sub>) of the engine during said gearshifting (21), with said

control unit being adapted to calculate a difference value which corresponds to the difference between the measured value of the speed derivative ( $ESG_m$ ) and the expected value of the speed derivative ( $ESG_e$ ), and for updating the expected value of the speed derivative ( $ESG_e$ ) to a new value which corresponds to said measured value of the speed derivative ( $ESG_m$ ) if said difference value exceeds a predetermined threshold value (x).

- [c9] 9. Device according to claim 8, wherein said control unit is arranged to initiate compression braking of said engine.